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Yang-Mu Heo

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EXAMINER

STOKELY-COLLINS, JASMINE N

ART UNIT

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/627,726	<b>Applicant(s)</b> HEO, YANG-MU	
	<b>Examiner</b> JASMINE STOKELY-COLLINS	<b>Art Unit</b> 2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 February 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed February 11, 2008 have been fully considered but they are not persuasive.

Applicant argued on page 6, second paragraph of the section addressing the 103 rejections that Chess not meet the limitations claimed in claim 1 because Chess does not teach "a key input unit receiving a control command from a user and outputting a key signal to the central processing unit to control the memory card to directly download the main program from the memory card to the memory" because the cited section does not refer to a CPU, memory card, or main program. The examiner disagrees. Figure 1 of Chess shows the system of Chess's invention, which includes a CPU. It is inherent that the CPU controls the processing, while the unalterable ROM simply stores the programs used by the CPU (col. 2 ll. 33-36). The memory card disclosed by Chess is the diskette, which is a functional equivalent of a memory card, as they are both external storage devices. Furthermore, when modifying the receiver control program downloaded taught by Prus with the teachings of Chess's downloading method, the result is the main program taught by Prus being downloaded from the memory card taught by Prus, all of these actions being carried out by the CPU disclosed by Prus.

Furthermore, applicant argues in the last paragraph of page 6 that there is no motivation to combine the cited references. Newly relied upon reference Prus pertains to a procedure for booting a settop box (containing a CPU) from an external memory. Chess pertains to fixing corrupted configuration programs during the startup/booting of a

CPU by booting from an external memory. The examiner asserts Prus and Chess are analogous art and there is motivation to combine, namely to ensure a program is loaded from the proper source in order to enable a CPU to access files needed to boot itself. The same argument applies to claims 2-12.

On page 11, paragraph 6, applicant argues that claims 15 and 18-19 aren't met for the above refuted reasons, and applicant argues Chess also does not refer to outputting a key signal to a central processing unit. The examiner disagrees. The key signal is the signal sent by Chess's pressing of a special key combination that causes a program to load.

Regarding claims 13 and 14, applicant argues on page 10 paragraph 2, and page 11 paragraph 1 that neither Yap nor Sutton teach "determining whether the main program is downloaded by checking information of the file recorded in the header and a capacity of the main program recorded in memory" because Sutton does not disclose a header. The examiner disagrees. Sutton teaches verifying a program by checking file size and content in all or part of the file (pg. 1 sect. 0007). Figure 2 of Sutton shows a header as part of the files contents. Therefore, Sutton teaches "determining whether the main program is downloaded by checking information of the file recorded in the header and a capacity of the main program recorded in memory".

Applicant further argues that there is no motivation to combine Sutton with the cited reference. However, the newly relied upon reference of Prus pertains to a receiver that obtains a program from a smart card and stores it in a memory. Sutton pertains to an efficient method of receiving a file and storing it in memory. The examiner asserts

Prus and Sutton are analogous art and there is motivation to combine, namely to ensure a file is correctly downloaded, without duplication of already stored files or defects.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 4-5, and 7-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Prus et al (US 7,069,578 B1).

Regarding claim 1, Prus teaches a digital receiver (figure 1 element 150), comprising:

a memory card (smart card) storing a main program (control program, col. 6 ll. 8-16);

a memory (figure 2 elements 200 and 250: flash memory and DRAM);

a central processing unit (figure 1 element 199: CPU) controlling operations of the digital receiver (col. 4 ll. 19-25, col. 6 ll. 13-16) and the memory (col. 3 ll. 29-23);

a memory card interface electrically coupling the memory card and the central

processing unit (col. 3 ll. 51-55); and  
a key input unit (figure 1 element 124: keyboard) receiving a control command from a user and outputting a key signal to the central processing unit to control the memory card to directly download the main program from the memory card to the memory (col. 16 ll. 51-55).

Regarding claim 4, when read in light of claim 1, Prus further teaches the memory stores information under a control of the central processing unit and stores a boot program having information about the memory card interface (col. 4 ll. 19-20, ll. 57-59).

Regarding claim 5, when read in light of claim 4, Prus further teaches the memory stores a boot program in an upper memory area and the main program in a lower memory area (pg. 5 section 0020 of applicant's specification defines the upper area as the section of memory with lower address values than those of the lower memory area where the main program is stored. Prus discloses storing the bootloader code in a first sector in col. 4 ll. 7-14).

Regarding claim 7, when read in light of claim 1, Prus further teaches the memory card comprises one of a memory stick, a media card, a SD memory card, a compact flash, and a smart media (figure 1 element 129: smart card).

Regarding claim 8, when read in light of claim 1, Prus further teaches the memory card stores the main program to perform various functions of the digital receiver and to execute audio/video data (abstract "...the ability of the operating system/control program in the settop receiver to operate the settop receiver" discloses the purpose of the control program is to operate the settop receiver. It is inherent that an operation of the settop box is to execute audio/video data).

Regarding claim 9, when read in light of claim 4, Prus further teaches the boot program enables the central processing unit to recognize the memory card through the memory card interface and to control the information recorded in the memory card (col. 5, ll. 61-col. 6 ll. 3).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Prus et al (US 7,069,578 B1) in view of Cain et al (US 2003/0172306).

Regarding claim 2, Prus teaches the digital receiver as recited in claim 1.

Prus does not teach the main program has a predetermined file extension.

Cain discloses a boot program downloading operating system files from a memory, where the files have .sys extensions to identify them as system files (pgs. 6-7 sect. 0091). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include file extensions on the control program/operating system file(s) saved in the smart card taught by Prus for the benefit of allowing the bootloader to identify which files are needed to implement the operating system.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Prus et al (US 7,069,578 B1) in view of Jackson (US 6,560,685 B1).

Regarding claim 3, when read in light of claim 1, Prus teaches the receiver of claim 1. Prus does not explicitly disclose the memory card interface allows the central processing unit to control an address structure of the main program recorded in the memory card.

Jackson teaches a method of booting a settop box in which copies a program from an external memory by controlling an address structure of the program (col. 4 ll. 38-55). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Jackson's teaching of allowing the memory card interface to control an address structure of the program with the receiver taught by Prus for the benefit of allowing Prus's receiver to access and download pertinent program from the smart card.



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6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Prus et al (US 7,069,578 B1) in view of Chess et al (US 5,802,592).

Regarding claim 6, when read in light of claim 1, Prus teaches the receiver of claim 1.

Prus does not teach the key signal is set by a signal input when keys of the key input unit are simultaneously pressed.

In analogous art, Chess teaches a computer system that loads a program from an external memory during the boot process. Chess's system loads a program from the external memory (diskette) upon the activation of a key combination (col. 2 ll. 25-33). Chess does not explicitly disclose the combination of an up-key and down-key, however it is an obvious application of the key combination taught by Chess, as the combination of the up-key and down-key typically has no other intervening functionality. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Chess's teaching of using a key combination to load a program from an external memory during a boot process with the receiver boot process taught by Prus for the benefit of preventing accidental or unintentional downloads by requiring a user to specify the drive to obtain boot programming from.

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Prus et al (US 7,069,578 B1) in view of Oh et al (US 6,807,597 B2).

Regarding claim 10, when read in light of claim 1, Prus teaches the receiver of claim 1.

Prus does not disclose the memory card comprises a pin connected to an insert recognition terminal of the memory card interface.

Oh teaches a memory card interface that detects the presence of a smart card, or any other standard expansion card (abstract). Oh detects the presence of the card by using card detection pins (col. 5 ll. 30-32, col. 6 ll. 46-57). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Oh's insert smart card and standard expansion card compatible recognition pins in the receiver taught by Prus for the benefit of enabling the receiver to operate with different types of memory cards.

8. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Prus et al (US 7,069,578 B1) in view of Oh et al (US 6,807,597 B2), and further in view of Yap et al (US 6,807,597).

Regarding claim 11, when read in light of claim 10, Prus in view of Oh teaches the receiver of claim 10. Limitation "when the memory card is inserted into the memory card interface, a logic voltage of the insert recognition terminal is converted from 'low' (0) to 'high' (1), and the memory card interface causes an interrupt and sends a memory card insert signal to the central processing unit" is

an obvious deduction from col. 7 ll. 24-27, as logic is conventionally conveyed as 0's and 1's, where a logic 0 typically associates with a voltage low (or absence of voltage, usually ground) and a logic 1 typically associates with a voltage high (of detection of a voltage).

Prus in view of Oh does not teach triggering a search of the main program in the memory card through the memory interface.

Yap teaches a card reader that searches for specified data on a card if the card is inserted (pg. 18 sect. 0395). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Yap's insert-recognition-initiated search routine in the receiver taught by Prus in view of Oh for the benefit of saving time by preventing the CPU from searching a non-existent memory card.

9. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Prus et al (US 7,069,578 B1) in view of Hallenbeck (US 5,038,211).

Regarding claim 12, when read in light of claim 1, Prus teaches the receiver of claim 1.

Prus does not teach the main program performs functions of the digital receiver comprising a User Interface (UI) and/or an Electronic Program Guide (EPG).

Hallenbeck teaches the use of a program guide (abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the functionality of a program guide in the receiver taught by Prus for the benefit of providing a user with an easy way to access and navigate through program listings (col. 1 ll. 13-23)

10. Claims 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prus et al (US 7,069,578 B1) in view of Oh et al (US 6,807,597 B2), and further in view of Yap et al (US 6,807,597) and Cain et al (US 2003/0172306) and Sutton JR et al (US 2003/0105716).

Regarding claim 13, Prus teaches a method of downloading a main program from a memory card in a digital receiver (col. 6 ll. 8-16), wherein the digital receiver (figure 1 element 150) comprises a central processing unit (figure 1 element 199: CPU), a memory (figure 2 elements 200 and 250: flash memory and DRAM), a memory card interface (col. 3 ll. 51-55), and a key input unit (figure 1 element 124: keyboard), the method comprising:  
executing a boot program to initialize the digital receiver (col. 4 ll. 20-21, col. 5 ll. 61-67);  
reading and storing the file in an auxiliary memory (DRAM, col. 6 ll. 8-13); and  
downloading the main program to memory (flash memory, col. 6 ll. 8-13);

Prus does not teach detecting a memory card insert signal triggering a search of a file having a predetermined file extension in the memory card through the memory card interface;  
reading a header of the file read having the file extension and performing a checksum;  
determining whether the file read is the main program; and  
determining whether the main program is downloaded by checking information of the file recorded in the header and a capacity of the main program recorded in the memory.

Regarding limitation “detecting a memory card insert signal”, Oh teaches a memory card interface that detects the presence of a smart card, or any other standard expansion card (abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Oh's insert smart card and standard expansion card compatible recognition pins in the receiver taught by Prus for the benefit of enabling the receiver to operate with different types of memory cards.

Yap teaches triggering a search of a file in the memory card through the memory card interface (pg. 18 sect. 0395). Yap also teaches reading a header of the file read having the file extension and performing a checksum (pg. 18 sect. 0387). Regarding limitation “determining whether the file read is the main program”, Yap teaches reading the header which contains all of the information identifying the type of program (pg. 13 sect. 0252-0263 and pg. 18 sect. 0387). It

would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Yap's insert-recognition-initiated search routine in the receiver taught by Prus in view of Oh for the benefit of saving time by preventing the CPU from searching a non-existent memory card and Yap's checksum and program determination for the benefit of verifying the data stored on the smart card is correct.

Regarding limitation "having a predetermined file extension", Cain discloses a boot program downloading operating system files from a memory, where the files have .sys extensions to identify them as system files (pgs. 6-7 sect. 0091). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include file extensions on the control program/operating system file(s) saved in the smart card taught by Prus for the benefit of allowing the bootloader to identify which files are needed to implement the operating system.

Sutton JR teaches determining whether the main program is downloaded by checking information of the file recorded in the header and a capacity of the main program recorded in the memory (pg. 1 sect. 0007 "The contents of the received file and the stored file may be verified... by using all or part of the file name,...the size of the file, content in all or part of the file, or other means". Figure 2 shows a file 200, where a header 210 is part of its content). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the testing of a successful download taught by Sutton JR

with the downloading method taught by Yap for the benefit of ensuring the downloaded file will function properly.

Regarding claim 14, when read in light of claim 13, Prus further teaches executing the main program to perform functions of the digital receiver when the main program is stored in memory (col. 6 ll. 13-16).

11. Claims 15-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prus et al (US 7,069,578 B1) in view of applicant's admitted prior art (figure 2).

Regarding claim 15, Prus teaches a method of downloading a main program from a memory card in a digital receiver (col. 6 ll. 8-16), wherein the digital receiver (figure 1 element 150) comprises a central processing unit (figure 1 element 199: CPU), a memory (figure 2 elements 200 and 250: flash memory and DRAM), a memory card interface (col. 3 ll. 51-55), and a key input unit (figure 1 element 124: keyboard), the method comprising:  
executing a boot program (col. 5 ll. 61-67, col. 4 ll. 20-21); and  
receiving a memory card selection key signal to download a main program directly from the memory card through the memory card interface, wherein the memory card selection key signal is set by an input signal from the key input unit (col. 16 ll. 51-55 a user can initiate the download of a program from the smart card by operating the keyboard);

storing the main program in the memory (col. 6 ll. 8-13);  
re-booting the system through a reset (col. 5 ll. 63); and  
executing the main program (col. 6 ll. 13-16).

Prus teaches seeking a main program from other sources in the event that the main program is not loaded from a smart card (fig 3), however Prus does not teach using a data control unit (DCU) or a serial communication;  
downloading the main program from the PC through the DCU when the memory card selection key signal is not input; and  
downloading the main program from the PC through the serial communication when the DCU is unavailable and the memory card selection key signal is not input.

Applicant's admitted prior art, figure 2, teaches using a data control unit (DCU) or a serial communication;  
downloading the main program from the PC through the DCU when the memory card selection key signal is not input; and  
downloading the main program from the PC through the serial communication when the DCU is unavailable and the memory card selection key signal is not input. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the DCU and serial connection taught by the prior art in the system taught by Prus for the benefit of providing more sources by which to download a control program, therefore making the system more reliable.



Regarding claim 16, when read in light of claim 15, Prus further teaches determining whether a memory card insert signal is supplied to download the main program from the memory card (col. 6 ll. 7-13); and downloading the main program from the memory card through the memory interface when the memory card insert signal is supplied (col. 6 ll. 8-13).

Prus does not teach making the determination when the serial communication and DCU are unavailable. However, Prus does teach the general concept of attempting to load the program from a secondary source when the primary source fails or is not present (figure 3). Applicant's admitted prior art teaches a serial communication and a DCU as sources for loading a program (figure 2).

Regarding claim 17, when read in light of claim 15, Prus further teaches displaying an error when the main program cannot be downloaded from the memory card (col. 6 ll. 7-28 teach displaying an error when a main program is either missing or defunct and cannot be downloaded from a smart card).

Regarding claim 18, when read in light of claim 15, Prus further teaches the user manipulates the key input unit to input to the central processing unit the memory card selection key signal allowing the main program to be directly

downloaded from the memory card (col. 16 ll. 51-55).

Regarding claim 19, when read in light of claim 15, Prus further teaches the memory card selection key signal is pre-set by the predetermined key signal of the key input unit provided on the digital receiver or a predetermined key signal of a remote controller (col. 16 ll. 45-48).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASMINE STOKELY-COLLINS whose telephone number is (571) 270-3459. The examiner can normally be reached on M-Th 9:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Koenig can be reached on (571) 272-7296. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/Jasmine Stokely-Collins/  
Examiner, Art Unit 2623

/Andrew Y Koenig/  
Supervisory Patent Examiner, Art Unit 2623